RESPONSES TO REVIEW COMMENTS
Proposed Plan for Operable Unit 8
Anaconda Copper Mine
Lyon County, NV
Date: November 2016

Responses to Walker River Paiute Tribe Comments, dated December 21, 2016
General Comments

Item	Topic	Comments	Responses
1	Plants and agriculture	The 2-foot cap is overly ambitious to meet expected standards for long term effective containment. Two feet of soil is highly unlikely to prevent plant update of heavy metals and radionuclides in native plants; the vast majority have greater than 2 feet of roots to accommodate our desert climate. With plant root zones including mine waste material, update is a concern as a release from the site that directly effects Tribal members as they utilize local plants and animals. Fact is, tribal members cannot use the plants, vegetation and cultural practices have been compromised. With wildlife known to use the site, minimal dust control and no institutional controls these effects are magnified. Adding to and cultural practices have been compromised. With wildlife known to use the site, minimal dust control and no institutional controls these effects are magnified. Adding to this, Lyon County has a reputation for inconsistent land use policies, as recently experienced by the residents living in the Comstock, that will require broad assumptions regarding future land use and site access.	The 2-foot cap is the minimum thickness. The final thickness will be determined in the design phase. The HLP vegetative cover species will be selected to (1) have a shallow rooting depth in order to minimize root penetration into HLP material; (2) have a low soil to plant bioaccumulation potential; and (3) not be a preferred species for wildlife consumption. In addition, site access restrictions will render the human health plant consumption pathway incomplete. These factors associated with the vegetative cover will result in no adverse impacts to human and ecological receptors. Finally although the Site is comprised of almost 50% public lands, access is prohibited, therefore tribal use of plants at the Site will not be possible.
2	Cap thickness	Adding to the issues with plant update, a two-foot cover may not be adequate to provide needed vegetative cover to prevent erosion. Overly steep slopes and inadequate depth of topsoil result in limits regarding re-vegetation. Additional design documents will need to better describe the material to be used, seed mix, modeling results and monitoring efforts including moisture monitoring in and below the cap (similar to systems at BGMI and Rio Tinto).	The 2-foot cover is the minimum thickness. The, actual thickness will be determined by engineering during design to meet the remedial objectives.
3	Stormwater management	The stormwater plan for the operable unit is a step in the right direction but will not be functional without a site wide plan to connect it to. Please consider this a request to develop a site wide stormwater program before the ROD is expected in rnid-2017. We consider this critical to protect the Walker River from the site.	Agreed. A site-wide stormwater system will be implemented in phases. The OU-8 system will be designed for standalone stormwater protection. The systems for the other operable units will be connected as they approach remedial design and action.

4	Plants and agriculture	Adding to the plant update question is the unsupported and technically incorrect statements regarding agriculture in Mason Valley. There is agriculture adjacent to the site and it uses water downgradient from the site. One of the largest volume wells in the valley is the Peri and Sons Farms' fields on Luzier Lane currently closed due to elevated uranium from the mine. This well was used for decades to irrigate fields. These same fields and irrigation water discharge to the Wabuska Drain which flows onto our Reservation, into the Walker River and is an Operable Unit of the site. The Walker River Paiute Tribe recognizes that issues with mine waste in agriculture products and uptake of hazardous substances from mine waste in plants gathered by our Tribal members share pathways and health hazards. The EPA study by Tetra Tech often cited from 2009 was not only of inadequate scope to provide useful information, it completely disregarded pathways that directly affect Tribal members. The whitewashed explanation regarding mine waste and agriculture found in this Program Plan on page 6 regarding the mine site and agriculture is unacceptable. NDEP statements such as; "With regard to surface water, there is currently no information that indicates any impact from the Anaconda site to the Walker River has diminished the potential historical pathway for site contaminants and should be further investigated. This is the time to fill the data gaps agreeable to active stakeholders. Walker River Paiute Tribe is requesting a correction to the situation which is best described as having inadequate data for conclusions, but adequate data to support an expanded study, and would likely include follow up with NDEP and EPA to fill this important data gap to protect our community's health and economy.	The PP preferred alternative will virtually eliminate the groundwater threat from OU-8. Further studies may be included in the OU-4 RI, OU-7 RI, or even the OU-1 FS. These comments are potentially more relevant to these future documents.

5	Wabuska Drain	The report states that OU7, the Wabuska Drain, is a higher priority. This is appreciated since this includes Tribal property, but there are currently no plans available to determine the risk from this operable unit on our property or at its confluence with the Walker River (and subsequent effect on Weber Reservoir and Walker Lake). We would like to use this opportunity to request a plan be in place and reviewed for in-stream equipment to be installed before the start of the 2017 irrigation season.	This comment is more appropriate for OU-7 discussions, not the OU-8 Proposed Plan.

Responses to Walker River Paiute Tribe Member Comments, undated
General Comments

Item	Topic	Comments	Responses
6	Human health and the environment	The health problems that the contaminant waste left by large and small companies are my concern. Not only are our youth and future, but also our elders are affected long term by contamination of our groundwater, earth and air. While a sense of relief is noted by the proposed action doubt is present because often good intention are deferred by greedy officials. Hope for a successful conclusion of future mining and other environmental actions.	The Agencies are confident that the proposed/selected remedy will address potential health/environmental risks for OU-8. The challenges associated with securing funding are recognized, but we believe the site is a priority and are confident in a successful and expedient implementation.

Responses to Yerington Paiute Tribal Consultation Questions and Comments, dated December 14, 2016
General Comments

Item	Topic	Comments	Responses
7	Alternative selection	Were the four alternatives selected before the election?	Yes, the four alternatives in the Proposed Plan were selected in 2012.
8	CERCLA process	Are they still viable considering the President Elect's stance on the environment?	Yes, the Agencies believe so and continue to proceed under the CERCLA process, which is a law that was passed through Congress.
9	Remedial design	What is the cap made of?	The cap will be made of soil, compacted to prevent rain from penetrating, which will result in diversion of surface water to the stormwater management system. The exact composition of the cap will be determined during the design phase after careful consideration of all constraints and concerns. Any water that does penetrate the cap will go down just a few inches and evaporate off.
10	Human health and the environment	You keep referring back to the NDEP standards. Does EPA have more stringent standards?	EPA bases cleanup standards on risk to human health and the environment. EPA does not have mine closure regulations. The specifics of the selected alternative will be determined during the design process.
11	Plants and agriculture	Will there be vegetation?	It is presumed that there will be vegetation on the cap to stabilize the soil and assist in evaporating water, although specific decisions about cap design will be made during the design process.
12	Alternative selection	If public comments differ from Tribal comments how do you proceed with selecting the remedy?	The Agencies do not anticipate varied comments. There are only a few options to address the environmental impacts of the HLPs. The process for selecting the remedy is prescribed in the CERCLA law and related guidelines.
13	Alternative selection	Are there other mines in NV using this approach?	Yes, these are common closure practices.
14	Alternative selection	Tribes are the ones who wanted this cleanup to begin years ago so their comments should have more consideration over Yerington politicians.	The Agencies agree that the site was overlooked and the problem is larger than it should be. By implementing the selected alternative, measures will be implemented to cleanup the site and keep the problems from getting any larger. All substantive comments submitted during the public comment period will receive equal consideration.

15	Public comments	Will we be able to see all comments?	Yes, all comments are public record.
16	Dust control	You can see clouds of alkali dust when the wind blows. Nothing has been done by BLM to protect those living near the site. Instead they just continued to issue permits to companies who were looking for gold. They did not find it and the mines were abandoned. Now the Tribe is finally speaking up and having their say. We would like more information on the human health risk. More information on the short and long term health risks for each alternative. It also seems like the dust control method, which is spraying the piles with water, would add to the issue of creating drain down fluids.	The volume of water used for dust suppression is not enough to be a fluid management issue.
17	Five-Year Review process	If this goes on for a long time, the site might be forgotten in 50 years.	EPA has a Five-Year Review process to evaluate the effectiveness of the remedy. Additionally there is ongoing, regular inspections and maintenance that would uncover any issues in the interim.
18	Schedule	What is the timeline?	In 2018 the remedial design will be completed, and in 2019 the construction will commence, subject to federal appropriations processes.
19	Cost and funding	Is there a budget?	An estimate of the cost to implement and operate the preferred alternative (Proposed Plan Alternative 4) is provided in the FS as Alternative 6a/8a.
20	Cost and funding	Is there a limit to the amount of money the government will spend?	To be funded, the site has to be on the NPL and get in front of the Priority Panels for EPA and BLM to request funding. To date EPA has spent $10 million to construct ponds and wants a more permanent solution.
21	Cost and funding	This is our land, it is everything we have. Generations of our family have been here and plan to stay. So there should be no budget. This is where our lives are. We are concerned that funding will disappear under the new Presidency. There is a history of mistrust, that our experiences are imagined. If you don't get the funding level to support the preferred alternative, how do you proceed?	The Agencies would wait for additional funding or prioritize and complete the work in phases
22	CERCLA process	We have grave concerns about the new President and Cabinet picks and a Republican congress that has full control.	The comment is outside the scope of the remedy selection process.

23	Cost and funding	Does each OU receive its own funding?	Yes. The other Anaconda OUs will be funded by the Responsible Parties. OU8 requires federal funding as the owner went bankrupt.
24	Alternative selection	Was moving solids offsite considered?	No.
25	Cost and funding	If funding is received as anticipated, will the pond capacity last through construction?	Yes, if funded as anticipated, the current pond capacity is sufficient to last through construction.

RESPONSES TO REVIEW COMMENTS
Proposed Plan for Operable Unit 8
Anaconda Copper Mine
Lyon County, NV
Date: November 2016

Responses to Yerington Paiute Tribe Comments, dated December 21, 2016
Specific Comments

Item	Topic	Comments	Responses
26	Drain down fluids	The Draw down fluids are described in the document as "containing elevated Total Dissolved Solids" with the more toxic components are left unmentioned. In the HRS Documentation Record, the fluids are described as "Hazardous substances in PLS collected from these ponds include arsenic, cadmium, chromium, copper, lead, manganese, nickel, uranium, and zinc." In addition, this statement is inconsistent with Table 1. Although the elevated TDS is important to management and the description in the document brief, future discussions of the draw down fluids should be more accurate and mention the heavy metals and radionuclide issues.	The purpose of the Proposed Plan is to describe the remedial alternatives. Table 1 in the Proposed Plan lists all the contaminants of concern. The Health Risk Assessment, which discussed toxicity characteristics of the drain-down fluids, is included in the Administrative Record made available to public in the site repository.
27	Stormwater management	The document states "Site-wide stormwater connections are part of the proposed alternative; connections to the OU-8 stormwater system will be completed as adjacent areas undergo remedial action." Having only part of the site, and in this case a section within the site, have a stormwater system not connected to the site is not technically feasible. What happens at the dead ends? Will a temporary outlet be constructed to by-pass unfinished sections?	A site-wide stormwater system will be implemented in phases with connections to individual OU stormwater system components, as other operable units undergo remedial action. The Agencies disagree with the assertion that this is not technically feasible, believing that the OU8 system can function independently until connected to a site-wide system.
28	Responsible party	The Mine History has no reference to the actual responsible party, BP, which wholly owns ARC. It is clearly described on previous EPA documents including the EPA website for the site (https://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/ViewByEPAID/NVD083917252). With the public well aware that BP is the responsible party, it is important for the document to be consistent; masking the actual responsible party's name is an inconsistency that reduces credibility.	The purpose of Proposed Plan is to describe the remedial action. The comment is outside the scope of the remedy selection process. The relationship between ARC and BP; and the responsible party are detailed elsewhere.
29	Mining plan	The document states "Also in 2009, a mining company, Singatse Peak Services (SPS) agreed to purchase mineral rights and surface land in OU-8, with the intent of re-processing the recoverable copper in the solids and liquids as part of an overall site-wide mining plan."	The Proposed Plan references a prospective overall site-wide mining plan, but does not state that a public document exists.

		It is an important fact that in 2009 SPS agreed to purchase the site but the referenced site-wide mining plan is not part of the site record and may not actually exist. It would appear that with the gap between purchase and the absence of a plan to utilize material in OU8 for additional reprocessing that this activity is not to be considered in future plans. The reference to a "site-wide mining plan" that include OU-8 is not accurate.	
30	Rephrase text	"…work on these OUs [OU-2, OU-4b, OU-5, and OU-6] will proceed once the priority OUs have finalized the RI and FS…" This statement communicates that the OUs are complete and separate units; however, there are actions that maybe required to include these lesser priority OUs that will occur concurrently to the remediation activities of the higher priority OUs. It is suggested that this be rephrased to state that work may be completed concurrently if associated with the remediation activities of higher priority OUs.	Thank you for your comment. The purpose of the public comment period is to provide feedback on the remedial action, not edit the background sections. The Agencies will consider rephrasing for the ROD.
31	Remedial design	It is assumed that any cap will include moisture sensors to allow confirmation of modeling/performance of the cap. This is a practice occurring at other mine sites in Nevada including the Barrick Goldstrike Mines Inc. (BGMI) facility in Elko (Zhan 2006)	The use or not of moisture sensors will be evaluated during the remedial design phase.
32	Dust control	Dust control for the E-cell may be required for solids left by the fluids as they evaporate and should be a factor when selecting "fine-grained alluvium" for the cells. It would be assumed that O&M would include steps to reduce this issue but it should be specified in follow-up design since it is omitted in the Plan, FFS and Closure Plan.	The Agencies recognize the need for dust control and will consider during the remedial design phase.
33	Remedial design	It is unclear how an E-cell will be closed when no longer needed or when its service life is complete.	The details of an E-cell closure will be determined during the remedial design phase. Typically these units are capped and closed in place.

Responses to Yerington Paiute Tribe Comments, dated December 21, 2016
General Comments

Item	Topic	Comments	Responses
34	Cap thickness	Evapotranspiration covers are an excellent option to be considered for this site. The lower maintenance and better aesthetics of a vegetated coved are all positive qualities of the system. However, the proposed 2-foot cover will require a more complete investigation and is likely underestimating the final cover thickness. A number of factors will be used to evaluate final cover design: A. Comparable facilities and their performance. Barrick Goldstrike Mines Inc constructed an evapotranspiration (ET) cover system for the AA Leach Pad in 2000. However, unlike the 2-foot cover proposed, the system includes 1.2 meters of cover under 1.5 m of salvaged topsoil (total of 8.8 feet) (Zhan 2006). Although it is assumed that the cover material will have different properties and the BGMI facility receives more rainfall, an over 75% reduction in thickness is an unlikely estimate. B. The 2-foot cover is not appropriate for the vegetative cover: a. Erosion prevention is often cited as the major issue with ET cover systems (Breckenridge 2010). This often makes the vegetative cover critical. However, a 2-foot cover will put as much of 80% of the roots terminating, or trying to terminate, in the covered material reducing viability of the cover. A 2-foot cover may not be adequate to support needed vegetation and that vegetation will be penetrating the cover potentially reducing its viability. b. Plants with roots below the cap will bioaccumulate heavy metals associated with the waste increasing the ecological and human health risk (Garvin 2013). It is also noteworthy that once plant material uptakes heavy metals and radionuclides these hazardous components are released through use by residents, animals and as plants mature and drop leaves,	The preferred alternative of the Proposed Plan specifies a minimum cover of 2 feet. The exact thickness and material composition will be engineered during the remedial design phase to meet the required protectiveness. If, during design phase discussions, the ET cover is determined to be the most effective cover type, the HLP vegetative cover species will be selected to (1) have a shallow rooting depth in order to minimize root penetration into HLP material; (2) have a low soil to plant bioaccumulation potential; and (3) not be a preferred species for wildlife consumption. In addition, site access restrictions will render the human health plant consumption pathway incomplete. These factors associated with the vegetative cover will result in no adverse impacts to human and ecological receptors.

		releases seeds or die back in winter.	
35	Stormwater management	Stormwater leaving the site has been recently well documented by residents and is evident from gullies and other erosion features throughout the site. The inclusion of stormwater management in the proposed plan is a step forward, but development of stormwater control features for one Operable Unit that is almost completely surrounded by other Operable Units is questionable. The question remains, what happens to the water when it reaches lower elevation other Operable Units? Will it be stored permanently onsite? The answer to these questions is to develop a site wide stormwater management program. The Clean Water Act requires permits for storm water discharges associated with industrial activities to waters of the United States. The EPA is managing the Yerington Anaconda Mine Site under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) authority. In accordance with CERCLA, the discharge of storm water associated with sites such as the Yerington Mine Site should comply with the substantive requirements of the storm water permit program; however, CERCLA response actions are exempted by law from the requirement to obtain Federal, State or local permits related to any activities conducted completely onsite. Despite this, releases from the site are required to be controlled for a variety of reasons. In this case, even without the stormwater permit requirement, for any party otherwise liable for a release, it creates liability for damages for injury to, destruction of, or loss of natural resources including the costs of assessing such injury, destruction or loss resulting from such a release. It is generally accepted that exemption from stormwater permitting in this case is not a release from liability. Subsequently, Superfund sites generally have plans and facilities to manage stormwater. It is recommended that a site-wide stormwater plan, long overdue, be developed concurrent with the design of OU8. Without a design for the entire facility, it will be technically impossible to evaluate the effectiveness of the OU8 proposed plan in regards to surface water.	A site-wide stormwater system will be implemented in phases. The OU-8 system will be designed for standalone stormwater protection. The systems for the other operable units will be connected as they approach remedial design and action.
36	Human health and	The Tribe has previously commented on the Human Health Risk Assessment in December of 2012. There are a number of very	The Baseline Human Health Risk Assessment (BHHRA) was finalized in October 2016 and is included in the Administrative Record made

	the environment	important general items that must be corrected for this Risk Assessment to meet the needs of Tribal residents. These general issues include: • Overestimating security: Site fencing and other security measures fall short of what is normally expected at a site of this size and severity. Previous reviews included photos of both intruders and game animals on site, which are important factors of exposure for the entire site. • Tribal cultural practices are completely disregarded: There is mention of this issue but absolutely no inclusion of information provided by the Tribe or use of guidance documents created through Superfund programs for Tribes. The end result is a Risk Assessment that is exclusive to the non-Tribal community and disregards EPA's trust responsibility to the Tribe. • There is no Conceptual Site Model for this site: The Tribe worked with EPA to address many important issues with the Conceptual Site Model several years ago. As of the last conference call, EPA had not forwarded those modifications to BP and there appears to be no progress on this important site-wide document despite efforts by both the YPT Environmental Office and Administration. This is very unfortunate since important components of the HHRA now found lacking could be "cut and pasted" from a functioning Conceptual Site Model. • Assumptions regarding offsite conditions in the HHRA are incorrect: The data set regarding effects of dust and other transported solids offsite is very limited. In contrast, information regarding actual transport of these materials is substantial. Adding to this problem, the location of site features is misrepresented to the point of obscuring risk; the town of Yerington is adjacent to the site (not 1.5 miles from the site), or more specifically, the Anaconda Mine is located in Yerington, and the Reservation is an "onsite" condition since OU7 includes Tribal trust property. The Tribe has repeatedly requested additional offsite studies of soil and biota from EPA.	available to public in the site repository. The BHHRA identified the risks and and the Proposed Plan identifies actions will address the potential exposure pathways referenced. EPA has responded to the Tribe's request for offsite studies and is currently funding the planning, collection, analysis and evaluation of off-mine property soils within the Wabuska Drain in the YPT reservation.

		EPA's continued lack of pro-active response to our request is troubling.	
37	Remedial design	Capping of the piles and establishing the vegetation critical to preventing erosion on ET covers. However, this change in habitat also changes exposure to biota. As stated in the Final Feasibility Study (EPA 2016): "…if HLP surfaces are modified or improved to establish vegetation, potentially introducing other biota, potential exposure and adverse effects to plants, soil invertebrates, and wildlife might result, or if the HLPs are altered to provide habitat for birds and mammals, further risk analysis would be needed." The result is that ecological risk assessment will be an important tool for ET cap design. For example, since burrowing animals are part of that risk and are significant risk to releases into the food chain, it is unknown how two feet of cover will provide adequate protection. Adding to this the comments above regarding plant uptake and root depth.	The HLP cap for the preferred alternative will be a minimum of 2 feet thick. The exact thickness and material composition will be engineered during the remedial design phase to meet the required protectiveness. The HLP vegetative cover species will be selected to (1) have a shallow rooting depth in order to minimize root penetration into HLP material; (2) have a low soil to plant bioaccumulation potential; and (3) not be a preferred species for wildlife consumption. In addition, site access restrictions will render the human health plant consumption pathway incomplete. These factors associated with the vegetative cover will result in no adverse impacts to human and ecological receptors.
38	Plants and agriculture	The document states that "Agricultural products grown in the area have been tested and there is no evidence that OU-8 or the Anaconda Copper Mine Site has had any impact on agricultural production. Most agriculture fields in the Mason Valley are located away from the Anaconda Site, either hydrologically up-gradient or not hydrologically connected to the Site at all" on page 6. This statement is incorrect: 1. Agricultural fields are adjacent to the site 2. Agricultural fields are downgradient from the site 3. Irrigation water used on the fields (Honeywell Ranch Well) has been found to be contaminated with mine waste resulting it its use discontinued. Other irrigation wells are in an area of groundwater known to be effected. The only other evidence for this conclusion (no impact to agriculture) known to the Tribe is the results of a January 9, 2009 Technical Memorandum (Onion Sampling, Peri Farm, Yerington, Nevada,	The off-property agricultural areas are not part of OU8 and are not addressed by this Proposed Plan. Also groundwater use or the potential for use for irrigation purposes is part of OU-1 (Site-wide Groundwater) and/or OU-7 (Wabuska Drain), and should be addressed in those contexts. The referenced language in the Proposed Plan states that most of the agricultural fields are located away from the site, either up-gradient or not hydrologically connected. The Proposed Plan does not assert that all fields are located away from the site. Also the Agencies acknowledge that requiring discontinuation of use of an irrigation well can be considered to have an impact on agricultural production. Finally the ROD can acknowledge limitations of the January 9, 2009 Technical Memorandum (Onion Sampling, Peri Farm, Yerington, Nevada, prepared by CH2M Hill), as the relatively low uranium concentrations measured in onions may not be similarly low in other agricultural crops.

		prepared by CH2M Hill) regarding the issue of farm products from a single field adjacent to the mine. In that report, a total of four onions were analyzed for uranium. Results showed relatively low levels of uranium (the only analysis conducted) although uranium was found in all samples in a wide range of concentrations. The onions themselves had already been packaged for processing and/or distribution in fields near the site prior to sampling (placed in "field bags" for the processor). Contrary to the report title, the onions may or may not have been from an area near the mine or even irrigated with groundwater due to use of Walker River water by the farm in question and their use of other properties extending beyond Mason Valley. The 2009 study states that "the technical approach to onion sampling was not meant to be a standard, statistically-defensible approach". The small and limited study does not include the other mine-related heavy metals or radionuclides, other crops in the area or even those regularly irrigated with the groundwater in question. The field used for the study is preferentially irrigated with surface water from the Walker River. The focus and results of the study indicated that onions from that producer did not contain concentrations of uranium of a concern for human health. This result is not disputed, only its broader application to other locations, crops and heavy metals and radionuclides released from the mine site. Multiple peer reviewed studies have determined that onions uptake uranium far less than other common crops (Saric 1995, Dushkenov 1997). Other crops grown in the area such as alfalfa and crops planned for the area such as lettuce have both been found to uptake uranium (Ebbs 1998, Saric 1995, Dushkenov 1997). The same research indicates that uranium was found to be highest in leaves, particularly older leaves, and lowest in storage organs such as corn cobs and grain (0.04 and 0.05 mg/kg U), bean pods and seeds (0.07 and 0.02 mg/kg U) and onion bulbs (0.07 mg/kg). The tops of the onions for the EPA study were actually removed and not analyzed despite being an edible portion of the plant. Overall, previous research has clearly indicated that onions are one of	

		the poorest indicators of uranium uptake. The absence of uranium in onions does not correlate to other plants. Additionally, onions would be a crop recommended for agricultural areas managing uranium issues to limit uptake in plants. The second question for this study is the use of uranium as an indicator for other metals released from the site. Arsenic, copper and other metals are noted for concentrations above standards in groundwater associated with releases from the mine that includes groundwater used for irrigation. It is interesting to note that uranium is not associated with uptake in onion bulbs but other metals associated with site, arsenic, has been associated with preferential uptake in similar plant structures; radish hypocotyls (Gaw 2008). When plants are grown in soils containing arsenic, cadmium, copper and uranium, accumulation is expected to be highest in leaves compared to storage organs such as onion bulbs (Gaw 2008, Saric 1995). In summation, it is not clear from the literature reviewed if uranium would be an effective indicator for other mine waste constituents known to have been released from the site. Considering past research, it must be concluded that uranium alone is not an appropriate indicator of the effects the site is having on local agriculture. This is particularly important since historical releases to surface water and from dust storms prior to recent dust control measures may have resulted in elevated concentrations in soil (Figure 4, Figure 5, and Figure 6). No data on soil concentrations was included or discussed in the 2009 EPA study and no analytical data on irrigation water was provided. Considering both the actual science available for uptake of uranium in onions and the absence of data on other heavy metals and radionuclides released by the site, it is very clear that EPA is overstating the application of the January 9, 2009 study in the Proposed Plan. It is also noteworthy that the Tribe has repeatedly asked for realistic studies of the effect of the mine on agriculture concurrent with effects on other plants collected by Tribal members (Attachment 1).	
39	Cap thickness	For Alternative 3, which includes a 4-foot cover, it is described as: "This alternative more closely approaches mine closure practices	The HLP cover for the preferred alternative will be a minimum of 2 feet thick. The exact thickness and material composition will be

		under the Nevada Administrative Code. The new FMS facilities would meet State of Nevada ARARs and combined with the HLP covers would provide a reasonable chance of meeting state ARARs for groundwater protectiveness. This alternative would likely comply with HLP closure requirements. Full compliance with all ARARs would depend on the effectiveness of the ET cover and condition of existing HLP liners and portions of the FMS." The 2-foot cover is described as: "This alternative is consistent with similar HLP closures recently approved by NDEP under the Nevada Administrative Code. The new FMS facilities would meet State of Nevada ARARs and combined with the HLP covers would provide a reasonable chance of meeting state ARARs for groundwater protectiveness and HLP closure requirements." The difference is that 4 foot and deeper minimum caps are part of the current practice. It can be assumed that the 4 foot minimum caps exist and have been used regionally. The language is misleading since 2 foot caps may be proposed but 4 foot plus ones are actually in use.	determined during the remedial design phase to meet the required protectiveness. The language is not intended to be misleading, just not exact until engineering can be performed during design.
40	Stormwater management	The design restriction on page 13 "full compliance with all ARARs would depend on the effectiveness of the ET cover and condition of existing HLP liners and portions of the FMS" is very important to moving forward with the design. The ET cover must be designed around the water balance and to reduce the hazard (including plant uptake and other ecological factors that result in human health risk) and not set to an arbitrary depth. Additionally, the assumption that current liners are fully functional will need to be proven considering their age and history. Management of stormwater is very important and its specific mention in this proposed remedy is a step forward for the site. However, to be realistic, it must connect to a site wide program that will need to be designed and implemented in the short term.	The design comment regarding the functionality of the current liners will be addressed during design. A site-wide stormwater system will be implemented in phases. The OU-8 system will be designed for standalone stormwater protection. The systems for the other operable units will be connected as they approach remedial design and action.

RESPONSES TO REVIEW COMMENTS
Proposed Plan for Operable Unit 8
Anaconda Copper Mine
Lyon County, NV
Date: November 2016

Responses to Yerington Community Action Group Comments, dated December 14, 2016
General Comments

Item	Topic	Comments	Responses
41	Cap thickness	We understand, even with the site being placed on the NPL, money is an issue. We are taking the cost for the remedies into account and realize the State of Nevada will have responsibility for 10% of the cleanup costs. We do not want to see Alternatives #one or # two. We do not see either of them as valid to protect human health or the environment. Alternative # three: We favor using the four foot cover for the heaps. We believe the added thickness would add protection. We do not favor this alternative because it does not have a plan to deal with the stormwater management. Alternative #four: Seems to be the best option in regards to cost and effectiveness. We are concerned with some of the issues with this alternative.	The HLP cap for the preferred alternative will be a minimum of 2 feet thick. During remedial design, the required protectiveness may result in the specification of a thicker cap.
42	Alternative selection	We do believe that the big problems concerning this unit of the site will be addressed (for now) using Alternative #4.	Thank you for your comment.

Responses to Yerington Community Action Group Comments, dated December 14, 2016
Specific Comments

Item	Topic	Comments	Responses
43	Cap thickness	We are concerned with using only the 2 foot cover. We would request there be a moisture sensor installed under the cap to make sure this is adequate. We also want to make clear that the VLTs would not be used as a cap. We know in the past they were being considered and then found to be a continuing source of contamination. We are concerned with the vegetation used to cover and stabilize the cap. We have been assured only native grasses with root systems that spread will be used to protect from a root system that would break through the cap and go deeper into the contaminated portion of the heaps.	The use or not of moisture sensors will be evaluated during the remedial design phase. Various source materials for the HLP caps were considered in the focused feasibility study. All options will be open for consideration during the design phase. The HLP vegetative cover species will be selected to (1) have a shallow rooting depth in order to minimize root penetration into HLP material; (2) have a low soil to plant bioaccumulation potential; and (3) not be a preferred species for wildlife consumption. In addition, site access restrictions will render the human health plant consumption pathway incomplete. These factors associated with the vegetative cover will result in no adverse impacts to human and ecological receptors.
44	Dust control	We are also concerned with the use of modified evaporation. In the past, spraying on the site did result in releases to neighboring properties. There is continued dust seen blowing on the site. We would request air monitoring to resume if there is any spraying used to enhance evaporation.	Enhanced evaporation is not part of the selected remedy, but may be a useful tool until the remedy is implemented. Any enhanced evaporation applications will be applied in such fashion to minimize airborne transport.
45	Stormwater management	We do see stormwater running off the site during heavy rain events. We hope there is a comprehensive stormwater plan to address this issue.	A site-wide stormwater system will be implemented in phases. The OU-8 system will be designed for standalone stormwater protection. The systems for the other operable units will be connected as they approach remedial design and action.
46	Listing deferral	Is there still a possibility of the State deferring the listing? We are concerned because we have heard this is still on the table. How would this affect the cleanup of OU 8 moving forward?	Currently, the site is proposed for listing on the NPL. The NDEP, EPA, and BLM have been discussing NPL deferral primarily to provide future private funding. NDEP would become the lead agency. Deferral would only be approved if agreements are in place, which require OU-8 remedial actions consistent with specifications in the ROD and implemented during the same timeframes as currently planned under the NPL path forward. If the NPL is deferred, the BLM will still remain as land manager for the public lands portions of the Site. BLM

			cannot surrender its CERCLA authority and would retain its remedy selection authority. BLM would ensure that the remedy selected for OU8 would be implemented, maintained, and monitored for its effectiveness.

Responses to Great Basin--Susan Juetten Comments, dated December 21, 2016
General Comments

Item	Topic	Comments	Responses
47	Cap thickness	I am concerned that the Preferred Alternative will not meet the desirable objective of a permanent solution. The thickness of the ET soil cap suggested is "a minimum of 2 feet". This depth may not be sufficient to achieve a reduction in toxicity mobility and volume on the heap leach pads; though the document states that this is the standard in Nevada for HLP closures, the HLPs are exceptionally toxic here, toxic mobility will have an unacceptable impact on an essential aquifer, and it will be penny-wise and pound-foolish to settle for a lesser degree of remediation ("...soil cap will prevent as much precipitation as possible..."), when a greater depth of soil cap will do the job more thoroughly, and allow a plant community to grow up which will be less likely to reach down into the toxic substrate and more likely to thrive.	Two feet is the minimum thickness that will be considered for the cover. This minimum thickness was selected because it has been found to be effective and to meet the performance standards provided in the state regulations at similar sites in Nevada. The actual thickness will be determined during the remedial design phase. HLPs must be stabilized in accordance with NAC 445A.430, "Stabilization of Spent Ore" which provides both performance standards for effluent discharged from spent ore and requirements to meet anti-degradation policy/protection for waters of the state. These requirements are consistent with the CERCLA criteria for reducing toxicity mobility and volume of contaminants from the HLPs. During the design, the properties of the cover material such as soil/rock type, permeability, and compaction as well as the contaminant characteristics will be reviewed to determine the appropriate thickness to address the mobility of the contaminants. As stated on page 22 of the CCP "Unsaturated cover infiltration modeling should be performed, or other cover assessment methods should be used, to determine the most appropriate final cover thickness based on available soil borrow materials, while minimizing infiltration and draindown through the HLPs."
48	Cap thickness	Please consider increasing the depth of the soil cap to a minimum of 4 feet on OU8 HLPs.	As discussed in Response to Comment 47, the thickness of the cover will be determined during the remedial design.

RESPONSES TO REVIEW COMMENTS
Proposed Plan for Operable Unit 8
Anaconda Copper Mine
Lyon County, NV
Date: November 2016

Responses to Great Basin Resource Watch, dated December 20, 2016
Specific Comments

Item	Topic	Comments	Responses
49	Alternative selection	Great Basin Resource Watch has reviewed Proposed Plan to cleanup Operable Unit 8 (OU-8). Alternative 4 is in our view the best and really only option that was presented at the December 12, 2016 public hearing in Yerington, NV for remediation of the Arimetco portion of the Anaconda Mine site. However, we do see significant deficiencies in this alternative, and strongly recommend and additional alternative added that is more in line with Alternative 8 in the draft and final feasibility studies.[1] [1] a) U.S. Environmental Protection Agency, Region 9, "Draft Final Feasibility Study for Arimetco Facilities Operable Unit 8 Heap Leach Pads and Drain down Fluids, Anaconda Yerington Copper Mine Yerington Nevada," May 2012; b) "FINAL FEASIBILITY STUDY FOR ARIMETCO FACILITIES Operable Unit 8 Heap Leach Pads and Drain-down Fluids Anaconda Copper Mine Lyon County, Nevada, October 2016.	As stated on pages 8 and 10 of the Proposed Plan, Alternative 8, presented in the EPA "Draft Final Feasibility Study for Arimetco Facilities Operable Unit 8 Heap Leach Pads and Drain down Fluids" is presented in the Proposed Plan as Alternative 3. The description of the alternative has been generalized for the understanding of the general public. A cross-reference to the FS alternative is provided for those seeking more detail as the FS is available in the administrative record. The preferred Proposed Plan alternative (Alternative 4) is consistent with the 2016 Final FS Alternative 6A/8A (2016). Most of the components of FS Alternative 8 have been incorporated into Proposed Plan Alternative 4. The thickness of the cover has been changed from a set thickness of 4 feet to a minimum thickness of 2 feet to allow for analysis of site conditions and contaminant characteristics in the engineering design and determine the optimum thickness. This alternative also provides modifications to the fluids management system (conversion of ponds to evaporation cells) and provides a storm management system for the operable unit which will tie into a site-wide system in the future. This includes stormwater management on and around the HLPs. The regrading of the HLP slope has also been modified from 1.5:1 to 2.5:1 in the preferred alternative. This is a conceptual plan presented in the FS which will be optimized and may be modified in the final design.
50	Remedial design	Even though the average annual precipitation is low for the Yerington area significant torrential precipitation events often occur, which can result in infiltration into the HLP's. In addition, snowfall is common, also resulting in a springtime infiltration. Containment of the toxins in the HLP's is essential for the long-term public health of the Yerington area.	Agreed. Suitable materials for the cap and proper installation and compaction of a complete cover over the HLPs are necessary to minimize infiltration. The preferred alternative also includes stormwater management to control the runoff of precipitation on and around the HLPs.

51	Cap thickness	Given the level of contamination present in the drain down fluids from the Heap Leach Pads (HLP) it is essential that best effort are made to cap the entire surface and prevent water infiltration through the pads that could eventually reach groundwater. The "Proposed Plan for Operable Unit 8" states, "Although the cover is a minimum of 2 feet thick, the thickness is consistent with the current practices for HLP closure in Nevada and is considered effective and permanent."[2] GBRW acknowledges that a 2 foot cover is sufficient at many mine sites in Nevada where reclamation involves a much less toxic facility, but in the case of the anaconda HLP's the 2 foot cover for the Heap Leach Pads (HLP) is woefully inadequate. The Great Basin plants tend to develop quite deep root systems seeking water. Only the most superficial grasses will not penetrate below 2 feet. Due to the severe toxicity of the OU-8 HLP's it is important that plants minimally or do not penetrate below the cover material layer. [2] EPA, NDEP, BLM "Proposed Plan for Operable Unit 8," November 2016, p.13. http://ndep.nv.gov/bca/anaconda.htm	A key factor in the design of an effective cover is the mobility of the contaminants which will be contained. A contaminant can be toxic, but may have a low migration potential. During the design stage, the permeability of the cover materials, precipitation rates, and chemical characteristics (including mobility and toxicity) of the materials contained will be evaluated to determine the appropriate thickness of the cover. Also, see Response to Comment No. 47 concerning additional discussion for thickness of the cover.
52	Plants and agriculture	A stable plant community is critical to the long-term reclamation of the HLP's. As such a variety of grasses and brush will need to be established including include sage and rabbit brush, for example, which are deep rooted plants. Many of the desired plants will most likely penetrate below the 2 foot cover and either die due to low pH conditions or excessive uptake of soluble toxins. Those plants that do penetrate the cover and survive will then draw these toxins from the HLP resulting in widening the contamination zone through seed and plant mater dissemination from wind or uptake by foraging animals. GBRW even questions whether 4 feet cover will be sufficient, since Great Basin phreatophytes will tap deeper than this.	See response to Comment No. 1. If the selected vegetative cover species does not perform as expected, this will be addressed during the Five Year Review, or sooner.

53	Cap thickness	There seemed to be a change in the analysis from 2011 to 2016. The draft feasibility study only analyzed 4 foot cover/capping, whereas in the more recent analysis a hybrid alterative, 6a/8a, was proposed that reduced the cover to 2 feet, which clearly represents a lower level of reclamation and is less protective. In terms of "Overall Protection of Human Health and the Environment" the draft and final feasibility studies state that, "The degree of protectiveness for Alternative 8 is considered to be higher than the other alternatives."[3] Thus, this alternative should have been presented to the public, and a clarification as to why Alternative 8 is not preferred. The final feasibility study does indicate that cost maybe the reason for dropping alternative 8, which states, "Based on the stated RAOs/GRAs, implementation of a combination of Alternatives 6 and 8 to facilitate diversion of as much precipitation from the heap leach pad fluid management systems as possible is the most effective way to reduce draindown flows and associated management costs."[4] Given that the clean-up of OU-8 will be with public dollars for public protection, the public should be given the details so it can weigh in on whether the additional costs associated with a thicker cover is worthwhile. [3] Final Feasibility Study (ref 1b), p. 5-24. [4] Final Feasibility Study (ref 1b), Appendix E, p. 16.	In both the draft FS (2012) and the Final FS, Alternative 6 included a 2-foot cover and Alternative 8 included a 4-foot cover. Proposed Plan Alternative 3 (FS Alternative 8) was evaluated and presented in the PP and in the public meeting, and it was explained why that was not the preferred alternative. As discussed in Comments 47 and 51, the two-foot thickness is considered a minimum thickness. The final thickness of the cover will be determined in the design and will consider all pertinent factors such as the characteristics of the cover materials and the mobility and transport of contaminants.
54	Stormwater management	GBRW is also concerned that there is no overall stormwater plan for the entire site. We support a system to help direct precipitation from off the HLP's and other facilities, but it should be part of an integrated stormwater management plan.	The proposed stormwater management system for OU8 will function independently until it can be connected to a site-wide system. A site-wide stormwater system will be implemented in phases as other operable units undergo remedial action. The OU-8 system will be designed for standalone stormwater protection, and it will connect with other OUs' stormwater systems as they approach remedial design and action.

Responses to Atlantic Richfield Company Comments, dated December 21, 2016
General Comments

Item	Topic	Comments	Responses
55	Site-wide closure strategy	Comment G1: Coordinated Response. Implementation of the OU-8 remedial action should proceed in coordination with remedial action in adjacent portions of OU-3, OU-4a, and OU-5 to maximize efficiency of material handling and reduce the need for multiple mobilizations. Some examples of how this recommended coordinated closure approach would occur include: (i) Export excess HLP material made available from down-grading of the Phase III-South HLP into OU-3 for use in in filling/covering the OU-3 concrete vaults and the adjacent OU-8 Mega Pond. Both areas can be lined, graded, covered, and closed together as a single closure management unit. Also export excess material from down-grading of the Phase III-South HLP to the adjacent Phase III-4X HLP to achieve desired side-slope conditions. (ii) Import material from the OU-5 W-3 and S-23 waste rock areas into OU-8 to provide fill, achieve desired side-slope conditions, and provide a working base for installing cover material on the Phase I and Phase II HLPs. Concurrently export material from re-grading of the W-3 waste rock area (to 3:1 slopes) to serve as cover material on infrastructure within the southern portion of OU-3. Construct fluid management and stormwater management ponds associated with the HLPs within the flat space created from the re-graded W-3 and W-23 waste rock areas. Close the entire area, encompassing the Phase I/II HLPs, W-23, W-3, and South OU-3 process area, as a single closure management unit. Additional synergies can be identified as the RI/FS work is completed for the other operable units.	The agencies recognize that coordination of the remedial action at OU-8 with actions at other OUs could maximize closure efficiency. However, currently none of the adjacent OUs are far enough along in the CERCLA RI/FS process to meet critical OU-8 priority closure deadlines. Sequencing of the other OUs is outside the scope of this Proposed Plan but can be considered during the remedial design and remedial action planning phases if timely. Coordination with actions at the other OUs can be considered as long as protectiveness of human health and the environment are ensured.

56	Remedial design	Comment G2: Construction Sequencing. Remedial action in OU-8 (and in adjacent portions of other operable units) should be sequenced to take maximum advantage of the efficiencies derived from fewer mobilizations and utilization of on-site materials for filling, contouring, and capping. Construction of new evaporation ponds associated with the Phase I, II, III-South, III-4X, and IV-Slot HLPs should occur first. Grading and capping should occur next for these HLPs, in coordination with closure activities for adjacent portions of OU-3 and OU-5 (as discussed above). Grading and capping of the Phase IV-VLT HLP should be coordinated with later closure work in the adjacent OU-4a area (including the Finger Ponds, Thumb Pond, and Lined and Unlined Evaporation Ponds).	See response to #55.

57	Remedial design	Comment G3: Regrading and Expanded Footprint. Re-grading plans for the HLPs should allow for greater push-down of HLP leach material or over dumping with imported materials, which will result in an expanded footprint in certain areas to achieve desired side slopes and to provide more manageable cap areas and working space. This will improve implementability, since the need for relocating material up-slope onto the top of HLPs will be reduced; and more gradual side slopes (3:1 rather than 2.5:1), which will facilitate cover installation, may be accommodated. For example, designs should provide for push-down of material on the east-facing slopes of the Phase III-South and Phase III-4X HLPs and the east-facing slope of the Phase IV Slot HLP towards the south and east, respectively. In some cases, materials derived from OU-8 facilities may need to be pushed-down or otherwise moved outside the designated OU-8 boundaries to achieve design specifications and the desired construction efficiencies. Mining materials (spent ore) may be considered for use or disposal outside of permitted containment if determined not to pose a threat to surface water or groundwater in accordance with guidance issued by the Nevada Bureau of Mining Regulation and Reclamation ("NBMRR").[1] [1] See https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwjQ4N6rg_zQAhXHg1QKHa-KDIIQFggdMAA&url=https%3A%2F%2Fndep.nv.gov%2Fbmrr%2Ffile%2Freuse.pdf&usg=AFQjCNFp3vb6_O1u0F6s__fArjsXr9iX_Q&bvm=bv.142059868,d.cGw	Whereas reducing the angles of the sideslopes might be a design objective, and subsequent expansion of HLP footprints may be needed, such things would be determined in the remedial design process.

58	Drain down fluids	Comment G4: Fluid Management and Pond Construction. With respect to fluid management, ARC agrees that precipitates in the existing evaporation ponds (including the 4-acre Pond) should be closed in place to the greatest extent practicable and in accordance with applicable regulatory closure requirements. ARC does not agree, however, that the existing FMS ponds in their current configuration should be converted to E-Cells for long-term fluid management. Instead, drain-down fluids can best be managed by (i) coordinated, phased closure of the existing ponds based on derived fluid drain-down rates, and (ii) constructing new decentralized evaporation ponds as an interim measure or initial step in remedial action implementation, with one pond to be installed adjacent to each of the Phase I/II, III-South, III-4X, and IV-Slot HLPs. Ponds could be constructed in 2018-2019, prior to initiating final grading and capping of the associated HLPs. This will help to ensure continued effective management of drain-down fluids and reduce or eliminate the risk of exceeding FMS pond capacities while the RI/FS, remedy selection, remedial design, and remedial action proceed to completion. By having separate, decentralized ponds associated with each HLP, fluid management strategies can be optimized using passive drainage and without the need for extensive pumping and transfer of liquids, thus increasing operating efficiency. As drain-down fluid rates decrease, ponds would be converted to E-Cells for long-term operations and maintenance at the point that in-flow rates drop below 1.5 gpm. Ponds would also be constructed of suitable dimensions and base materials to facilitate solids management while operating in the evaporation mode and efficient conversion to E-Cells at the appropriate time.	The agencies appreciate the comment and appreciate the nature of timing and sequencing the conversion of the evaporation ponds to e-cells. The agencies recognize the potential for interim facilities to be needed as part of the construction process, but such decisions would be made during the remedial design process. To develop the post-closure fluid management plan, drain-down from each heap leach pad will need to continue to be measured regularly to determine the appropriate time for some or all of the existing ponds to be converted to E-cells. Such details will be determined during the remedial design phase.
59	Drain down fluids	Comment G5. Source(s) of Fluid Generation. The Proposed Plan states (on p. 2) that the "remedy is recommended because it will achieve substantial drain-down fluid reduction by addressing the source of the fluid generation (infiltration of precipitation) through capping the HLPs, which will significantly reduce volumes and flowrates of fluids to manage." This is not entirely accurate. Certainly, regrading, capping, and run-on controls on the HLPs will reduce precipitation-derived infiltration and resulting drain-down fluid discharge rates to	Acknowledged. As discussed under Response to Comment No. 58, the current fluid management system will continue to operate until levels within the ponds allow for closure or conversion to E-cells. This factor will also be considered during the design with the goal as stated in the PP to reduce infiltration to extent practicable and minimize O&M.

		some degree. However, there is a substantial reservoir of fluid in the HLPs, which will continue to drain down and discharge regardless of future reductions in precipitation infiltration. It will be important for the evaporation ponds and other fluid management system components to be designed and constructed with due consideration of the volume and projected draindown rates of the residual fluid present within the HLP interstices.	
60	Cost and funding	Comment G6. Estimated Costs. The Proposed Plan includes estimated NPV costs for the preferred alternative, but little information is provided concerning how the cost estimates were derived. ARC has carefully evaluated the Agencies' cost estimates and finds them to be well below ARC's own estimates for the OU-8 remedial action. This is due in part to the exclusion of estimated costs for (i) closing the existing 4-acre pond, and (ii) long-term operation, maintenance, and possible replacement of the other FMS ponds. Other items that appear to have been excluded from the Proposed Plan's cost estimates are structure demolition, closure planning, and management of OU-8 surface soils located outside of the HLPs. In addition, some cost items, although included, appear to underestimate likely projected costs (e.g., pond closures and pond construction). Based on ARC's analysis of the Agencies' current closure plan, estimated costs for the preferred remedial alternative are in a median range of approximately $59.6 million.	Cost estimates for the preferred alternative were derived in the Yerington Mine Operable Unit 8 Focused Feasibility Study Conceptual Closure Plan (CCP) utilizing the Standard Reclamation Cost Estimator tools combined with discussions with local contractors experienced in HLP closures. The cost estimates are at best a Class 4 estimate. This is consistent with EPA's requirement that FS cost estimates costs have an expected accuracy range of +50/-30%. During early design discussions, the estimates will be updated to approach a Class 2 rigor and statistical validity. Some specific costs may rise while others may drop as efficiencies are gained through more site-wide holistic closure phasing. So, while OU-8 closure costs may rise, adjacent OU closure costs may be reduced, thus producing an overall site-wide closure savings. The current cost estimate provided includes closure of the 4-acre pond ($1.8 million for including capping the pond, which includes backfilling, grading, installing a liner, installing geotextile fabric, placing 24" of soil, and seeding). Structure demolition and soils management outside the HLPs are not included as these are considered outside of the selected remedy and will be addressed in the future. Long-term operation, maintenance, and possible replacement of the other FMS ponds are also not part of selected remedy. Some costs are presented as net present worth value including conversion of ponds to E-cells and O&M costs. These are detailed in the 2016 FS and the CCP.

61	Stormwater management	Comment G7: Stormwater Management. ARC agrees that integrated stormwater management, including segregation of non-contact stormwater from drain-down fluids, is a key component of the site-wide remedial action. As stated in the Proposed Plan, stormwater management features associated with OU-8 should "be designed and constructed with the long-term objective of connecting to and complementing site-wide stormwater management features in adjacent areas of the site." The design of the OU-8 stormwater basins, ditch networks, and other conveyances should occur as part of the development of the site-wide storm water management plan. This will best ensure that stormwater continues to flow by passive drainage in the intended direction and that stormwater management system facilities will not need to be removed, rebuilt, or redesigned as the remedial action proceeds in other parts of the Site. Stormwater drainage plans need to be consistent with the projected final Site topography in order to avoid costly excavation work and minimize the need for tunneling and active pumping. For example, it may not be possible to direct stormwater collected at the Phase I/II HLPs towards the north, because this area is topographically lower than the intersecting Burch Drive. Also, it appears from Figure 6 in the Proposed Plan that the Agencies' conceptual stormwater management plan will include three non-discharging detention basins (numbers 1, 2, and 4), and one retention basin discharging to the pit. It is unclear whether the detention basins are intended to rely on evaporation, infiltration, or other means for eliminating collected stormwater. ARC recommends designing stormwater management facilities that will allow for sufficient water retention to promote settling and separation of suspended sediments, but also include mechanisms for discharging non-sediment bearing water off-site. This will help to reduce the needed surface area and detention capacity of the ponds, as compared to a system relying exclusively on evaporation for water elimination. In addition, developing a holistic, site-wide stormwater management plan is consistent with the recommended phased approach for the OU-8 remedial action. Addressing the immediate need for stormwater and drain-down fluid management ponds will allow for other aspects to be phased with the broader remedial action in a systematic, cost effective	As discussed in Response to Comment No. 45, the proposed stormwater management system for OU8 will function independently until it can be connected to a site-wide system. A site-wide stormwater system will be implemented in phases as other operable units undergo remedial action. The OU-8 system will be designed for standalone stormwater protection. Consideration of how this system may connect to a site-wide system will be evaluated during the design stage and as part of the stormwater management plan included under this alternative. Figure 6 is intended as a conceptual depiction of a possible system for illustrative and alternative costing purposes only. Details and modifications will be prepared during the design stage when a more detailed analysis will be performed.

		way that is more sustainable over the long-term.	
62	Remedial design	Comment G8. Use of "Evapotranspiration (E/T)" Soil Caps. The Proposed Plan refers in several places to the use of evapotranspiration (ET) soil caps in the OU-8 remedial action. This implies that the Agencies envision seeding and active management of vegetation on the closed/capped HLPs to enhance water removal and reduce infiltration, although this is unclear. Use of non-vegetated covers may be more appropriate given the climatic conditions at the Site. Average annual precipitation is less than 5.2 inches (WRCC-DRI). Annual average pan evaporation exceeds 60 inches (PE, WRCC-DRI Fallon), with variable seasonal wind conditions typically averaging below 10 mph. The climate thus appears suitable for an evaporation-only soil cover alternative. Climate conditions may be too dry to passively support a desirable vegetation habitat, as needed to meet transpiration or erosion control performance goals. Whether ET covers or non-vegetated covers provide the most effective water balance cover method can be resolved at the remedial design stage of remedy implementation.	Vegetated covers are used to control dust and prevent runoff and erosion of the cap materials, although maintenance is more challenging in an arid environment. During the design, systems will be evaluated to maintain the vegetation such as irrigation and water retention techniques. As discussed in Response to Comment No. 1, plant species will be evaluated during the remedial design. The agencies concur that cover systems (ET, non-vegetated, vegetated) will be evaluated during the design.

Responses to Atlantic Richfield Company Comments, dated December 21, 2016
Specific Comments

Item	Topic	Comments	Responses
63	Rephrase text	Comment S1: P.3, 1st column, Mine History, 5th sentence: The Proposed Plan states that: "Atlantic Richfield Company (ARC) acquired the Property from the Anaconda Copper Mining Company in June 1978 and terminated mining operations at the Site." This is not factually correct. Anaconda ceased mining operations at the Site in June 1978. Anaconda merged with an ARC subsidiary in 1977 (renamed The Anaconda Company), which was merged into ARC in 1981.	The text will be revised as appropriate in the ROD.
64	Drain down fluids	Comment S2: P.3, 2nd column, 1st paragraph, 3rd sentence: The Proposed Plan states that: "The solution drain-down rate decreased from 3,300 gpm during active operation to less than 35 gpm in 2002." These figures appear to pertain only to the Phase IV VLT HLP. Available information suggests that site-wide drain-down flow rate values were unsubstantially higher during this time. Correct estimates of historic drain-down flow rates are important for accurately projecting future, long-term flow rates using applicable modeling techniques and for ensuring proper sizing and design of fluid management facilities.	Agreed. The rates referenced are for the Phase IV VLT HLP. Table 1-2 in the 2016 Final FS provides historic and recent drawn-down rates for each individual pond. This table will be included in the ROD.
65	Remedial design	Comment S3: P. 3, 2nd column, 2nd paragraph, last sentence: The Proposed Plan states that enhanced evaporation methods pilot tested by SPS in 2016 "may potentially reduce the fluids and solids in the FMS, providing additional time to secure Superfund or other funding sources for design and construction of the approved remedy." ARC is concerned that enhanced evaporation may increase the leachability of certain constituents from the HLP materials, which could affect the suitability of those materials for use or placement outside of areas of containment under the NBMRR Guidance (see Comment G3, above). These effects should be thoroughly assessed and considered before implementing enhanced evaporation on a larger scale on any of the	The Agencies concur. If enhanced evaporation is considered it will be further assessed during the remedial design.

		HLPs.	
66	Drain down fluids	Comment S4: P. 3, 2nd column, Drain-Down Fluid Characteristics, 1st sentence: The Proposed Plan states that: "There are currently five ponds collecting hazardous drain-down fluids from the HLPs with a total design capacity of approximately 14.54 million gallons." The current capacity of the VLT Pond, Evaporation Ponds B and C, Phase I/II Pond, and Slot Pond II is actually 10.54 million gallons. The higher fluid capacity estimate stated in the Proposed Plan was presumably determined before the Slot Pond I, the Mega Pond and the Arimetco Process Facility Ponds were closed in 2006.	This information will be corrected in the ROD. However, based on the information in the Final FS (2016), the capacity is 10.9 million gallons compared to the 10.54 million gallons provided by ARC.
67	Site-wide closure strategy	Comment S5: P. 5, 1st column, 1st paragraph, 2nd sentence: The Proposed Plan states that OU-2, OU-4b, OU-5, and OU-6 pose less risk than the "highest priority" OUs (OU-1, OU-3, OU-4a, OU-7, and OU-8), and "work on these OUs will proceed once the priority OUs have finalized the RI and FS, Human Health Risk Assessments, Proposed Plans, and Records of Decision (RODs), and remedial actions have begun." As noted in Comments G1 - G4 above, ARC believes that it is appropriate to begin work in some of the other "lower priority" OUs sooner rather than later and to coordinate that work with the remedial action proposed for OU-8 for a more efficient and holistic site-wide remedial approach. Again, this will improve overall efficiency, reduce costs, and decrease the time-to-completion for the site-wide remedial action.	Please see Response to Comment No. 55.
68	Human health and environment	Comment S6: P. 6, 1st column, "Is the Site Safe?" 1st paragraph: The Proposed Plan reports on incremental cancer risk estimates and non-cancer hazard indices for exposure to OU-8 HLP materials. These estimates are based on the Human Health Risk Assessment ("HHRA") completed as part of the OU-8 RI/FS. They are derived from highly conservative exposure assumptions and risk estimation methods, and they intentionally overestimate reasonably anticipated exposures and the associated risks. As stated in U.S. EPA's Final Remedial Investigation Report for OU-8 (Sept. 2011) (Section 8.4, p. 8-2): "The screening-level HHRA conservatively estimates potential risks to human receptors. Drain-down solution was compared to drinking	The agencies believe the risk exposure language used in the PP is appropriate. The purpose of the Proposed Plan is to present the preferred remedial alternative. To support that discussion, a summary of the HRA is provided so that the general public will understand the concerns at OU8 that will be addressed by the remedial action. The HRA is available in the Administrative Record for those who would like more detail. A more detailed summary will also be provided in the ROD.

		water MCLs and tap water PRGs; however, it is not expected that drain-down solution would be ingested. The use of these conservative comparison criteria overestimate the potential exposures and associated risks from drain-down solution." This uncertainty and the associated over-estimation of exposure risk should be acknowledged in the Proposed Plan.	
69	Groundwater	Comment S7: P. 7, 2nd column, 1st paragraph, 2nd sentence: The proposed Plan states that: "past releases and potential future releases from OU-8 … also have the potential to contaminate groundwater…." Use of the term "potential" here is not completely consistent with the findings of the RI/FS, which attribute measured groundwater impacts to Arimetco's OU-8 operations. For example, U.S. EPA's "Feasibility Study for Arimetco Facilities, Operable Unit 8" (Oct. 2016) states on page 1-13 that: "Potential areas affected by Arimetco operations include the footprints of each HLP and their associated drain-down FMSs, historical spill areas, and the SX/EW Process Area. On the basis of groundwater monitoring results, these impacts are thought to extend vertically down to groundwater…."	The full statement from the FS is as follows: "Potential areas affected by Arimetco operations include the footprints of each HLP and their associated drain-down FMSs, historical spill areas, and the SX/EW Process Area. On the basis of groundwater monitoring results, these impacts are thought to extend vertically down to groundwater, although the relative contributions from Arimetco versus other Site-related contaminant sources have not been determined." Because the relative contribution is yet to be determined, the use of the term "measured" in this comment is not accurate. The agencies consider the terms "potential" and "thought to" to be consistent with the fact that the contributions have not yet been determined.
70	General	Comment S8: P. 13, 2nd column, Preferred Alternative, 2nd paragraph, 4th sentence: The Proposed Plan states that: "[The preferred Alternative 4] also more closely adheres to NDEP Bureau of Mining Regulation and Reclamation closure requirements and guidance, which are required at active, permitted mines in Nevada." ARC agrees that NBMRR closure requirements and guidance should be used in determining closure requirements and the remedial action design.	Comment acknowledged. BMRR closure requirements and guidance will be consulted during the remedial action design.

Responses to Singatse Peak Services, LLC Comments, dated December 19, 2016
General Comments

Item	Topic	Comments	Responses
71	General	In 2011, SPS purchased the private property at the site with the goal of restarting mining at the Site. To date, SPS has spent over $37M on evaluating the potential to restart mining at the Site and adjacent properties. The statement on Page 3 of the Proposed Plan is incomplete; SPS's plans for the site are not just to evaluate the reprocessing of OU8 and other residuals from previous mining operations. Rather, SPS purchased the assets at the Site with the primary purpose of evaluating the feasibility of restarting mining of the copper resource in the existing open pit as well as the adjacent mineralized areas on or near the existing mine Site.	Comment noted. The Agencies appreciate SPS's desire to re-mine old workings and new mine workings, but until a Notice of Intent or a Plan of Operations is provided, there is no official SPS proposal for future mining/re-mining at or near the Site.
72	Enhanced evaporation	One of the risks presented in the Proposed Plan is related to the capacity limitations of the OU8 Fluid Management System (FMS) ponds. Although capacity of the FMS ponds was stated by EPA and NDEP as one of the key issues that led to the desire to list the Site on the NPL, the capacity could be extended through enhanced evaporation. During the 2016 calendar year, with concurrence of EPA and NDEP as well as ARC, SPS voluntarily completed a field-scale pilot study to evaluate enhanced evaporation of the FMS solutions. The pilot test is mentioned briefly on page 3 of the Proposed Plan. The results of the pilot test showed that enhanced evaporation can safely and economically extend the life of the FMS by at least 1 0 years without increasing the volume of solutions in the FMS ponds. The results of the pilot test were reviewed in a meeting with EPA, NDEP and ARC on October 20, 2016 and documented in a final report dated November 25, 2016. Enhanced evaporation could be used to defer the closure of OU8 and other OUs at the site while the EPA, NDEP, ARC, SPS and other stakeholders evaluate alternative options for managing and closing the Site.	The Agencies acknowledge that the enhanced evaporation pilot study accomplished the goal of reducing the amount of fluids in the evaporation ponds. However, the agencies view enhanced evaporation as a potential tool in the overall closure strategy. Whereas we recognize the potential benefit of enhanced evaporation and prefer that the landowner submit a mining plan sooner rather than later, the agencies prefer a more conservative closure schedule that will still allow time for a remining plan to be submitted and considered while ensuring that HLP infiltration is minimized and human health and the environmental are protected. In addition, BLM may not be receptive to replicating the enhanced evaporation on any public lands portion of the HLPs until further studies and data is collected. BLM will not support the transfer of contamination from one location to another unless it is a part of a permanent closure plan, especially on public lands. The agencies consider OU8 a priority and plan on continuing our goal to remediate OU8 without further delay. SPS has yet to submit a mining plan which will be needed for consideration of SPS's suggestions in this comment and without impacting the OU8 schedule.
73	Alternative selection	The Proposed Plan for OU8 does not define a specific schedule for implementation of the closure of OU8. Even though SPS generally	As stated in Response to Comment No. 55, while coordination of the remedial action at OU8 with actions at other OUs would maximize

		supports the Proposed Plan as the permanent solution, SPS recommends implementing a phased closure based on the following priorities: 1. FMS capacity needs which could be extended with enhanced evaporation, 2. Efficient integration of OU8 closure with the broader site remedy implementation by ARC, and 3. SPS's ongoing exploration and evaluation of restarting mining. Using these principles to guide the Site activities will lead to an efficient overall site cleanup and allow for continued evaluation of the feasibility of restarting mining at the Site.	efficiency, because of the urgency to complete closure actions at OU8, coordination with actions at these OUs is not necessarily feasible. Each of these OUs would need to be at a similar point in the CERCLA process for the suggested coordinated actions to occur. Addressing coordination of OU schedules is outside of the scope of the Proposed Plan, but can be considered during design discussions and decision-making.
74	Listing deferral	SPS understands that ARC and NDEP are negotiating a formal deferral of NPL listing of the Site. A key component of the deferral is that ARC would pay for the closure of OUB. SPS is conditionally supportive of the alternative approach proposed by ARC and NDEP as long as remediation of the site proceeds in an orderly fashion that allows for future flexibility to restart mining at the Site. As the private landowner and given the development of SPS's plans to restart mining, SPS must be included In all discussions and decisions regarding site remediation and reclamation while such decisions are considered and before any such decisions are finalized. Specifically, but not exclusively, SPS must have input regarding plans related to locating potential disposal sites for onsite wastes, use of on-Site soils or other materials which SPS considers assets for capping or other uses, and use of the existing open pit for stormwater management. This list is indicative yet not exhaustive of the types of issues that are important to SPS, the landowner, as it continues to evaluate the feasibility of restarting mining at the Site.	As discussed in Response to Comment No. 46, the NDEP, EPA, and BLM have been discussing NPL deferral primarily to provide future private funding. NDEP would become the lead agency. Deferral would only be approved if agreements are in place that require OU-8 remedial actions consistent with specifications in the ROD and implemented during the same timeframes as currently planned under the NPL path forward. The Agencies recognize SPS as the private landowner of the Site. Until SPS submits a plan for re-mining or mining on public lands, SPS will be informed along with other stakeholders. Once SPS submits the plans, we will keep SPS informed on all decisions that may affect SPS and their activities, and on all decisions that require SPS access or approval.
75	Mining plan	Singatse continues to maintain that there is no legitimate reason to rush into a listing process, nor is there any legitimate reason to rush into an expensive remedial process regarding OU8. There are mechanisms, such as enhanced evaporation which can effectively and economically extend the life of the FMS thereby allowing adequate time for	See Response to Comment Numbers 73 and 74.

		stakeholders to identify, fund and implement alternatives. SPS respectfully requests a more fulsome opportunity to participate in the planning and evaluation of approaches to remediation at the Site	